REVIEWS

Ten Thousand Years of Inequality: The Archaeology of Wealth Differences. TIMOTHY A. KOHLER and MICHAEL E. SMITH, editors. 2018. University of Arizona Press, Tucson. ix + 337 pp. $70.00 (hardcover), ISBN 13-978-0-8165-3774-7.

Reviewed by Kenneth M. Ames, Portland State University

This book seeks to contribute an archaeological deep time perspective to the burgeoning discussions and literature on increasing inequality in the modern world: How can we evaluate claims of growing inequality without knowledge of its long-term history? The book grew from a symposium at the 2016 Society for American Archaeology meeting in Orlando, Florida, and an Amerind Foundation seminar in Dragoon, Arizona, later that year (full disclosure: I was invited to the Society for American Archaeology session but had to decline). The book advocates for and is a primer on using the Lorenz curve and the Gini coefficient; the former graphically encapsulates wealth inequalities in a sampled population, and the latter is a coefficient summarizing the graph's information. The Gini coefficient fills the need for a standard index of inequality for making consistent comparisons across great distances in time and space. This technique has been widely used in social science disciplines for comparing income and wealth differences, and it has been applied sporadically by archaeologists since the 1980s. The Gini coefficient focuses the book on material wealth inequalities, which, while easier to measure archaeologically than differences in prestige or power, still requires an archaeological proxy. House size as measured by area is that proxy. While not a perfect measure, it crosscuts the great diversity of forms of wealth in the ethnographic and archaeological record.

The book has 11 chapters. The first (Smith, Kohler, and Feinman) is a useful, concise introduction to theoretical and methodological issues surrounding wealth inequality and to the purpose of and justification for the book and its methodology. The next two chapters are methodological. Chapter 2 (Peterson and Drennan) is a primer on using Gini coefficients and Lorenz curves. Chapter 3 (Oka, N. Ames [no relation], Chesson, Kuijt, Kusim, Gogte, and Dandekar) proposes a "composite archaeology inequality index," which is the geometric mean of multiple Gini coefficients calculated on different forms of wealth. Chapters 4 through 10 are case studies that include the Pacific Northwest of North America (Prentiss, Foor, and Murphy), the American Southwest (Kohler and Ellyson; Pailes), the Mississippian societies of the southeastern United States (Betzenhauser), northern Mesopotamia compared with southwestern Germany (Bogard, Styring, Whitlam, Fochesato, and Bowles), Mesopotamia (Stone), and prehispanic Oaxaca (Feinman, Faulseit, and Nicholas).

The final chapter, entitled "Deep Inequality" (Kohler, Smith, Bogard, Peterson, Betzenhauser, Feinman, Oka, Pailes, Prentiss, Stone, Denney, and Ellyson), uses data from the case studies and other sources to ambitiously examine inequality across large spatial and temporal scales to test a number of expectations along several dimensions, including adaptation (subsistence), site (settlement) type, and demographic scale. The authors compare inequality between the New and Old Worlds, finding it generally more strongly expressed in Old World states, which they attribute to the presence of large domestic animals in the Old World. One counterintuitive result of the analysis is that Teotihuacán's Gini coefficient suggests that it was egalitarian. An earlier version of this chapter published in 2017, using a slightly different dataset, argues that this surprising finding indicates that Teotihuacán was a collective rather than an autocratic polity and, furthermore, that the Gini coefficient for Teotihuacán is related to urban planning, the lack of large palaces at the site, and a residential pattern dominated by intermediate-sized houses (Kohler et al., *Nature* 551:619–623). Regardless of the explanation, this is the sort of counterintuitive result on which science thrives.

The case studies do not rely solely on house size. Prentiss and colleagues base Gini coefficients on six other

American Antiquity 84(1), 2019, pp. 179–189

doi:10.1017/aaq.2018.63

lines of material evidence from the Bridge River site in south-central British Columbia; some essays touch on storage as a measure of wealth or income; Bogard and colleagues propose an aggregation function to deal with various forms of wealth contributing differentially to a standard of living. Methodological issues addressed include Gini coefficients requiring representative samples of the population and the difficulties achieving that with archaeological samples, the effects of constraints on house size variations, how to partition structures in complex residual patterns into houses, and so on.

Some will reject the reductionism of summarizing a complex phenomenon such as inequality with a single number, while others will find it appealing. It does allow the kind of "big data" comparison and hypothesis testing undertaken in Chapter 11. It also encourages working across disciplines, phenomenological scales, and lines of evidence. Fully understanding the method and results, including surprising results such as Teotihuacán's, requires nuanced analysis of these multiple lines of evidence, some more qualitative than a Gini coefficient.

The book is a significant contribution. It is well crafted and well executed; the essays are tight; and the overall quality is high. It is stimulating whether you agree with its methodological premise or not. Few of us will disagree with archaeological data and insights contributing to current policy debates. This book makes an excellent case for the importance of studying patterns in deep time.

Modern Humans: Their African Origin and Global Dispersal. JOHN F. HOFFECKER. 2017. Columbia University Press, New York. 506 pp. $90.00 (hardcover), ISBN 978-0-231-16076-6.

Reviewed by Clive Gamble, University of Southampton

When it comes to the history of their discipline, paleoanthropologists align themselves with Charles Darwin. But claiming him as an intellectual ancestor is very different from testing his seminal ideas with modern techniques and data. Too often accounts of human origins owe more to Darwin's contemporary, the public intellectual Herbert Spencer. We may have outgrown his insistence on the inevitable law of human progress that once gave an unshakable direction to deep human history. But his belief that simple systems will become complex ones, largely as a matter of time, persists. Writing before Darwin's *Origin* was published, Spencer presented a breathtaking overview of the evolutionary process:

> Whether it be in the development of the earth, in the development of the life upon its surface, the development of society, of government, of manufactures, of commerce, of language, literature, science, art, this same evolution of the simple into the complex, through a process of continuous differentiation holds throughout [*Essays: Scientific, Political and Speculative* (1858:3)].

John Hoffecker's *Modern Humans* is an erudite, meticulously researched, and well-presented account of the Spencerian process as applied to deep history. The role of information in the evolution of complex systems, of which modern humans some 60,000 years ago are an example, structures his history. Hoffecker regards modern humans and their global dispersal as a major evolutionary transition in the tradition of Maynard-Smith and Szathmáry. What underpins this transition is a shift in the way information is processed. Modern humans, he argues, have a unique capacity to translate information in the brain into complex structures; composite artifacts are one example. This capacity, he states in Chapter 1, is the paleoanthropologist's prime directive to explain.

Chapter 2 sets out the current synthesis, led by the genetic information for *Homo sapiens* and the framework this provides of African origins and a late global dispersal. And it is here that the Spencerian rather than Darwinian narrative comes to the fore. Modern humans are presented as having a competitive advantage when they become an invasive or colonizing species. In Chapter 3, which reviews the deeper evolutionary context, this advantage is explained as follows: "the result of intense selection pressures created by the competitive social environment (that is, reciprocal alliance network)" (p. 145). It is, however, one thing to interpret such inferred competition to account for changes in the storage, transmission, and translation of information. It is another to explain where this evolutionary impetus comes from besides the idea that complexity inevitably breeds complexity.

Chapter 4, focused on evidence for and arguments about recent African origins of modern humans, concludes that advanced syntactic language is both the source of complexity and the explanation for its continuing compilation. Hoffecker argues that, rather than a genetic change, a greater learning period, due to slower maturation rates, underpins what he regards as the "Cambrian explosion" of artifactual life after 75,000 years ago. This coalesces into a package where language and complex technology led to global dispersal supported by a framework of alliance networks. The African origins of modern humans 75,000 years ago is accounted for by the likely